



## Department of Finance and Investment Management

# Investment Management 2B

BLB2B01/IVM02B2

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### LAST ASSESSMENT OPPORTUNITY

December 2016

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**Time: 2.5 hours**

**Marks: 150**

**Assessor:** Mrs J. Bolton

**Moderators:** Mrs I. O'Leary

#### **INSTRUCTIONS:**

- This paper consists of 13 pages
- Each question counts 2 marks
- Answer ALL questions on Ulink
- Work to FOUR decimal places and indicate final answers in TWO decimal places unless otherwise stipulated
- Silent, non-programmable calculators may be used, unless otherwise instructed.
- Please remember to SAVE as you go along!!
- Good luck!

1. A 5 year annuity due has periodic cash flows of R1000 each year. If the interest rate is 8%, the present value of this annuity is closest to?

- A.  $(R1000)(PVIFA@8\% \text{ for 4 periods}) + R1000$
- B.  $(R1000)(PVIFA@8\% \text{ for 4 periods})(1.08)$
- C.  $(R1000)(PVIFA@8\% \text{ for 6 periods}) - R1000$
- D. Cannot be determined from the information given.

2. You are hurt in a car accident and your lawyer wins a R100 000 settlement to be distributed as follows:

- R20 000 immediate payment
- R5 000 a year for ten years starting now
- R30 000 after ten years

If the lawyer's fee is R10 000, what is the value of this settlement if the interest rate is 10% per year?

- A. R55 298
- B. R50 000
- C. R48 950
- D. R98 450

3. Which of the following statements is true if the NPV of a project is negative R4000 and the required rate of return is 5%?

- A. The project's IRR is less than 5%.
- B. The required rate of return is lower than the IRR.
- C. The NPV assumes cash flows are reinvested at the IRR.
- D. The NPV would be positive if the IRR was equal to 5%.

4. You are considering two projects with the following cash flows:

	Project X	Project Y
Year 1	R9 000	R7 000
Year 2	R8 000	R7 500
Year 3	R7 500	R8 000
Year 4	R7 000	R9 000

Which of the following statements are true concerning these two projects?

- I. Both projects have the same future value at the end of year 4, given a positive rate of return.
  - II. Both projects have the same future value given a zero rate of return.
  - III. Project X has a higher present value than Project Y, given a positive discount rate.
  - IV. Project Y has a higher present value than Project X, given a positive discount rate.
- A. II only.
  - B. I and II only.
  - C. II and III only.
  - D. I, II and IV only.

5. The price of a share at the beginning of the year is R55 and R53 at year end. If the share paid a dividend of R3, what is the holding period return?

- A. 1.82%
- B. 3.64%
- C. 5.45%
- D. 10.0%

6. Consider a zero coupon bond that has a current price of \$436.19 and matures in 10 years. What is its yield to maturity?

- A. 0.86%
- B. 8.00%
- C. 8.65%
- D. 58.80%

7. The present value interest factor of an annual ordinary annuity for 3 years at 8% equals?

- A.  $1/(1.08)^3$
- B.  $1/(1.24)$
- C.  $[1+1/(1.08)+1/(1.08)^2]$
- D.  $[1/(1.08)+1/(1.08)^2+1/(1.08)^3]$

8. Peter and Linda want to buy a car. They have a deposit of R80 000, and decided to purchase a BMW priced at R240 000. Currently the bank is willing to give them finance over a 54 month period at a rate of 10% per annum compounded monthly. What would their monthly repayment be given the information above?

- A. R2 963
- B. R3 692
- C. R16 094
- D. R3 212

9. Expected portfolio return for a 2 asset portfolio, where asset A and asset B earn  $r_A$  and  $r_B$  respectively, equals?

- A.  $R_P = X_A r_A + X_B r_B$
- B.  $R_P = X_A r_A - X_B r_B$
- C.  $R_P = X_A r_A / X_B r_B$
- D.  $R_P = X_A r_A \times X_B r_B$

10. You have to decide between two assets. Asset A is currently priced at R20 and promises to grow to R35 in one year's time. Asset B is currently priced at R20 and promises to grow to R27.50 in only six months. You should buy:

- A. Asset A as it promises the highest return.
- B. Asset B as it promises the highest return.
- C. Both assets will result in the same level of return.
- D. None of the above

11. A distribution of returns that is more peaked than normal is:

- A. Skewed
- B. Leptokurtic
- C. Platykurtic
- D. Mesokurtic

12. A statistical measure of the degree to which two securities returns move together is?

- A. coefficient of variation.
- B. variance
- C. covariance
- D. certainty equivalent

13. Volatility risk of a single asset is measured by?

- A. standard deviation
- B. variance
- C. correlation
- D. covariance

14. The lack of uniformity or symmetry in a return distribution is called?

- A. Skewness
- B. Dispersion
- C. Kurtosis
- D. Standard Deviation

15. An agreement that provides for the future delivery or receipt of an asset at a specified date for a specified price is a:

- A. eurobonds contract.
- B. futures contract.
- C. put option contract.
- D. call option contract.

16. Use the following data to answer the next four questions

An investor buys 200 shares of ABC.

The market price is R60.

The initial margin requirement is 40%.

The maintenance margin requirement is 25%.

How much equity must the investor have in the account?

- A. R7200
- B. R4800
- C. R1000
- D. R4300

17. At what price will the investor get a margin call?

- A. R48
- B. R46
- C. R44
- D. R42

18. What is the leverage factor?

- A. 1.66
- B. 0.50
- C. 2.50
- D. 3.00

19. If the price falls to R55, what is the equity balance in the margin account?

- A. R7200
- B. R4800
- C. R1000
- D. R3800

20. Minimum maintenance margin is:

- A. the minimum proportion of equity to the total value of the margined stock
- B. the minimum proportion of the loan amount to the total value of the margined stock
- C. the minimum proportion of the current value of the margined stock to the original purchase price of the margined stock
- D. the amount that the investor must pay after a margin call

21. A well function market:

- I. Has low transaction costs
- II. Provides buyers and sellers with timely and accurate information
- III. Rapidly adjusts to new information about the fair value of a security
- A. I and III
- B. I, II, III
- C. III
- D. I

22. A market where investors trade with dealers such as most bond and currency markets is known as a(n):

- A. order driven market.
- B. quote driven markets.
- C. brokered markets.
- D. auction market

23. What order instructions indicate *when* to fill and order?

- A. Execution instructions
- B. Validity instructions
- C. Clearing instructions
- D. fill and kill orders

24. Toward the end of a recession,

- A. Financial stock rise on expectations of increases in loan demand, housing constructions and security offerings
- B. Consumer durable stocks rise on expectations of rising consumer confidence and personal income.
- C. Capital goods stocks rise on expectation of increases in business capital spending.
- D. Basic materials stocks rise on expectation of rising profit margins.

25. If a company currently has a high and unsustainable growth rate that exceeds its required rate of return, what is the appropriate valuation model to use?

- A. Book value model
- B. Multistage DDM (2-stage or 3-stage DDM)
- C. P/E
- D. Infinite growth DDM

Companies may sometimes have temporarily supernormal growth where  $g > k$ . If this is the case the temporary supernormal growth (multistage) growth DDM is appropriate.

26. Use the following data to answer the next four questions

You have accumulated the following information on Delicious Food.

Current share price:	R50
Current dividend:	R1.50
Delicious Food's beta:	0.85
Risk-free interest rate:	4.5%
Market risk premium:	6.0%

The dividend is expected to grow at 5% annually.

Calculate next year's projected dividend?

- A. 1.575
- B. 1.50
- C. 1.59
- D. 1.65

27. Calculate Delicious Foods required rate of return based on the CAPM?

- A. 9.6%
- B. 1.096
- C. 4.5%
- D. 5.775%

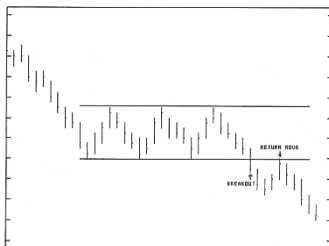
28. Using the reduced form of the dividend discount model, calculate the value of Delicious Foods?

- A. 30.88
- B. 29.41
- C. 203.23
- D. none of the above

29. Assuming the reduced form of the dividend discount model is valid, what dividend growth rate would result in a model value of Delicious Foods equal to its market value? (5)

- A. 5%
- B. 5.7%
- C. 6.5%
- D. 2.6%

30. This is an example of what major trend reversal?



- A. Rectangle
- B. Bullish Rectangle
- C. Bearish rectangle
- D. None of the above

31. Technical analysis differs from fundamental analysis in that
- A. Technical analysts contend that in-depth assessments of basic aggregate market, industry, and company performance is necessary; past price movements indicate future price movements.
  - B. Technical analysts believe the market value of common stocks is determined by the interaction of supply and demand
  - C. Technical analysts argue that the market constantly weighs rational and irrational factors and that both of these affect price.
  - D. Technical analysts depend far more heavily on objective, data-based approaches than the fundamentalists do.
32. Volume is considered important when using technical analysis, which of the following is true
- A. A stock price making a new high on heavy trading volume is viewed as bearish
  - B. A stock price making a new low on heavy trading volume is viewed as bearish
  - C. A stock price making a new high on non heavy trading volume is viewed as bullish
  - D. A stock price making a new low on non heavy trading volume is viewed as bullish
33. Technical analysis differs from fundamental analysis in that
- A. Technical analysts contend that in-depth assessments of basic aggregate market, industry, and company performance is necessary; past price movements indicate future price movements.
  - B. Technical analysts argue that the market ignores rational and irrational factors that affect price.
  - C. Technical analysts believe the market value of common stocks is determined by the interaction of supply and demand.
  - D. Technical analysts depend far more heavily on objective, data-based approaches than the fundamentalists do.
34. Which of the following is not a component of return on equity?
- A. Net income/sales.
  - B. Total assets/equity.
  - C. Equity/sales.
  - D. Sales/total assets.
35. DuPont Analysis breaks down return on equity into major areas that can be used to identify a firm's strengths or weaknesses with respect to
- A. Profitability
  - B. Leverage
  - C. Liquidity
  - D. Efficiency.
36. Which of the following statements about a company's current ratio is *most accurate*?
- A. A current ratio of less than 1 indicates a liquidity crisis.
  - B. It is less stringent than the quick ratio.
  - C. It is calculated using current assets and current liabilities
  - D. All of the above are true.
37. Which of these money market instruments is *not* a discount instrument?
- A. Bankers' Acceptance
  - B. Promissory Notes
  - C. Negotiable Certificate of Deposit (NCD)
  - D. Treasury Bill

38. An unsecured, senior, unsubordinated promissory note issued by non-banking institutions listed on the JSE is:
- A. Bankers' Acceptance
  - B. Certificate of deposit
  - C. Promissory note
  - D. Commercial paper
39. The actual/365-day count convention is used by all the following countries *except*?
- A. USA
  - B. SA
  - C. Australia
  - D. UK
40. If you are given a 90-day investment with an effective yield of 11.3%, what would be the Act/360 discount rate?
- A. 12.41%
  - B. 10.8505%
  - C. 13.44%
  - D. 11.45%
41. What would the initial offering price be of a 10-year zero coupon bond with a yield-to-maturity (YTM) of 10.50% for R1 million? Assume semi-annual compounding:
- A. R359 383.31
  - B. R135 754.56
  - C. R599 485.88
  - D. R902 725.67
42. Calculate the price of a zero coupon bond with yield to maturity of 12.5%, a face value of \$1000, and maturing in 8 years.
- A. \$1000
  - B. \$756.43
  - C. \$435.12
  - D. \$379.09
43. Debt securities are often called fixed-income securities because:
- A. they are held predominantly by older people who are living on fixed incomes.
  - B. they pay a fixed amount at maturity.
  - C. they promise either a fixed stream of income or a stream of income determined by a specific formula.
  - D. they have a fixed contract which the investors then signs
44. Which one of the following statements concerning bond ratings is correct?
- A. Bond ratings are solely an assessment of the creditworthiness of the bond issuer.
  - B. Investment grade bonds include only those bonds receiving one of the highest three bond ratings.
  - C. Bond ratings evaluate the expected price volatility of a bond issue.
  - D. All of the above are correct



45. When preparing a strategic asset allocation, how should assets classes be defined with respect to correlations of returns among the securities in each asset class?
- A. High correlation within asset classes and low correlation between asset classes.
  - B. Low correlation within asset classes and high correlation between asset classes.
  - C. Low correlation within asset classes and low correlation between asset classes.
  - D. High correlations within asset classes and high correlation between asset classes
46. Modern Portfolio Theory is most concerned with:
- A. the elimination of market risk.
  - B. the impact of diversification on portfolio risk.
  - C. portfolio management to enhance returns.
  - D. putting together the best portfolio
47. According to the CAPM (capital asset pricing model), what is the single factor that explains differences in returns across securities?
- A. the risk-free rate
  - B. the expected risk premium on the market portfolio
  - C. the beta of a security
  - D. the market return
48. PP, Inc.'s common stock has a beta of 0.90, while ADC's common stock has a beta of 1.80. The expected return on the market is 10 percent, and the risk-free rate is 6 percent. According to the capital-asset pricing model (CAPM), and making use of the information above, the required return on PP's common stock and the required return on ADC's common stock should be?
- A. 3.6% and 7.2% respectively.
  - B. 9.6% and 13.2% respectively.
  - C. 9.0% and 18.0% respectively.
  - D. 13.2% and 3.6% respectively.
49. According to the capital asset pricing model, the security market line is a straight line. The intercept of this line should be equal to:
- A. zero
  - B. the expected risk premium on the market portfolio
  - C. the risk-free rate
  - D. return on the market
50. PQ Ltd., a private company, decided to estimate the company's beta by means of the pure-play method. PQ Ltd. has a tax rate of 40%, a Debt/Equity ratio of 0.8. VG Inc., a similarly listed company, has a beta of 1.4, a tax rate of 35% and a Debt/Equity ratio of 0.7. PQ Ltd.'s beta is closest to:
- A. 0.96
  - B. 1.42
  - C. 1.65
  - D. 1.19

51. Which of the following portfolio(s) does not lie on the efficient frontier?

Portfolio	Expected Return	Standard Deviation
A.	10%	12%
B	5%	7%
C	12%	25%

- A. Portfolio A
- B. Portfolio B
- C. Portfolio C
- D. Portfolio A and B

52. Sammy Sneadle, CFA, is the founder and portfolio manager of the Everglades Fund. In its first year the fund generated a return of 30 percent. Building on the fund's performance, Sneadle created new marketing materials that showed the fund's gross 1-year return as well as the 3 and 5-year returns which he calculated by using back-tested performance information. As the marketing material is used only for presentations to institutional clients, Sneadle does not mention the inclusion of back-tested data. According to the Standards of Practice Handbook, how did Sneadle violate CFA Institute Standards of Professional Conduct?

- A. He did not disclose the use of back-tested data.
- B. He failed to deduct all fees and expenses before calculating the fund's track record.
- C. The marketing materials only include the Everglades Fund's performance and are not a weighted composite of similar portfolios.
- D. Sneadle did not violate the CFA Institute Standards of Professional Conduct

53. The most accurate statement about gifts is that members and candidates must not solicit or accept any gift that could reasonably be expected to:

- A. create an obligation to reciprocate.
- B. exceed customary business practice.
- C. radically change their standard of living.
- D. compromise their independence and objectivity.

54. The most accurate statement about accepting additional compensation from external sources is that members and candidates:

- A. must not directly compete with their employer.
- B. must obtain written consent from all parties involved.
- C. must use their own data sources and analytical models.
- D. must not allow their outside work to interfere with their regular work.

55. Investment analyses and recommendations must be based upon:

- A. certainty, not scenarios or projections.
- B. original research, not secondary sources.
- C. reliable, up-to-date evidence, not prejudgments.
- D. publicly available information, not proprietary databases or models.

56. Members and candidates must disclose to clients and prospective clients:

- A. proprietary models for screening and selecting investments.
- B. the basic format and general principles of the investment process.
- C. research-based forecasts of changes in macroeconomic indicators.
- D. the firm's history of regulatory violations, including current investigations.

57. Which of the following is NOT part of the 'Professionalism' standard of professional conduct?

- A. Independence and Objectivity
- B. Knowledge of the law
- C. Misrepresentation
- D. Record retention

58. An investor expects a stock currently selling for R20 per share to increase to R27.50 by year-end. The dividend last year was R1.25 but he expects this year's dividend to be R1.50. What is the expected holding period return on this stock?

- A. 31.25%.
- B. 43.75%.
- C. 45.00%.
- D. 37.50%.

59. An investor has a \$12,000 portfolio consisting of \$5,000 in stock A with an expected return of 20% and \$7,000 in stock B with an expected return of 10%. What is the investor's expected return on the portfolio?

- A. 14.17%.
- B. 15.0%.
- C. 15.8%.
- D. 16.31%.

**60. Use the following information to answer the next three questions**

You have the following return for the last 5 quarters:

-1.5%, +5.6%, +10.7%, -7.7%, +2.0%

What is the annualized geometric mean?

- A. 1.6%
- B. 1.8%
- C. 6.7%
- D. 8.4%

61. What is the harmonic mean?

- A. 1.6%
- B. 1.8%
- C. 1.4%
- D. 2.0%

62. The mean absolute deviation is closest to?

- A. 18.4%
- B. 5.8%
- C. 6.9%
- D. 12.4%

63. You wish to earn a return of 10% on each of two stocks, Hightower Properties and Landy Inc. Each of the stocks is expected to pay a dividend of \$2 in the upcoming year. The expected growth rate of dividends is 9% for Hightower and 10% for Landy Inc. The intrinsic value of Hightower \_\_\_\_\_.

- A. will be greater than the intrinsic value of Landy Inc.
- B. will be the same as the intrinsic value of stock Landy Inc.
- C. will be less than the intrinsic value of Landy Inc.
- D. will be greater than the intrinsic value of Landy Inc or will be the same as the intrinsic value of Landy Inc.

64. *Use the following information to answer the next three questions*

GesigiesBoek is expected to pay a dividend of R2 in the upcoming year. The risk-free rate of return is 4% and the expected return on the market portfolio is 14%. Analysts expect the price of GesigiesBoek shares to be R22 a year from now. The beta of GesigiesBoek stock is 1.25.

The market's required rate of return on GesigiesBoek stock is \_\_\_\_\_.

- A. 14.0%
- B. 17.5%
- C. 16.5%
- D. 15.25%

65. What is the intrinsic value of GesigiesBoek stock today?

- A. R20.60
- B. R20.00
- C. R12.12
- D. R22.00

66. If GesigiesBoek intrinsic value is R21.00 today, what must be its growth rate?

- A. 0.0%
- B. 10%
- C. 4%
- D. 7%

67. Exercise Bicycle Company is expected to pay a dividend in year 1 of \$1.20, a dividend in year 2 of \$1.50, and a dividend in year 3 of \$2.00. After year 3, dividends are expected to grow at the rate of 10% per year. An appropriate required return for the stock is 14%. The stock should be worth \_\_\_\_\_ today.

- A. \$33.00
- B. \$39.86
- C. \$40.68
- D. \$66.00

68. A company whose stock is selling at a P/E ratio greater than the P/E ratio of a market index most likely has \_\_\_\_\_.

- A. an anticipated earnings growth rate which is less than that of the average firm
- B. a dividend yield which is less than that of the average firm
- C. less predictable earnings growth than that of the average firm
- D. greater cyclicity of earnings growth than that of the average firm

69. What does beta represent?

- A. Equity risk premium

- B. Market risk
- C. Individual company risk against market risk
- D. Cost of debt

70. Who is the chairperson of the Federal Reserve?

- A. Alan Greenspan
- B. ben Bernanke
- C. Paul Volcker
- D. Janet Yellen

71. Who is the governor of the Reserve Bank?

- A. Lesetja Kganyago
- B. Gill Marcus
- C. Pravin Gordhan
- D. None of the above, there is no finance minister

72. The period of the business cycle in which real GDP is decreasing is called the:

- A. expansion
- B. peak
- C. recession
- D. trough

73. In general, the less debt a firm uses in relation to its total assets,

- A. the more risk there is to the equity holders of the firm.
- B. the less financial leverage it uses.
- C. the greater the financial leverage it uses.
- D. the lower extent to which it uses equity

74. Which of the following statements regarding Holding Period Return (HPR) is *correct*?

- A. HPR is a compound annual growth rate.
- B. The calculation of HPR ignores any capital appreciation in the value of the asset.
- C. The calculation of HPR ignores any income generated by the asset.
- D. HPR is the return generated for the duration over which the asset is held, allowing for all returns (income and capital gains) generated by the asset.

75. A primary market transaction involves?

- A. the direct trading of securities between institutional investors.
- B. trading of securities for privately held companies.
- C. primarily preferred stocks.
- D. the sale of new securities to investors.